

In the Claims

Applicant has submitted a complete claim set for the convenience of the Examiner.

1. (Original) A therapeutic vehicle for use in tissue engineering wherein said vehicle has integral therewith, or applied thereto, a cell culture surface obtainable by plasma polymerisation, to which at least one cell can reversibly attach characterised in that the surface contains an acid functionality of at least 5%.
2. (Original) A vehicle according to claim 1, wherein said surface acid functionality is between 5-20%.
3. (Previously presented) A vehicle according to claim 1, wherein said surface acid functionality is greater than 20%.
4. (Previously presented) A vehicle according to claim 1, wherein said surface acid functionality is provided by carboxylic acid.
5. (Previously presented) A vehicle according to claim 1, wherein said surface acid functionality is provided by propionic acid.
6. (Previously presented) A vehicle according to claim 1, wherein said acid functionality is provided by acrylic acid.
7. (Previously presented) A vehicle according to claim 1, wherein said surface is provided by coating a substrate with a plasma co-polymer of an acid containing monomer.
8. (Original) A vehicle according to claim 7, wherein said co-polymer is a mixture of acrylic acid and a hydrocarbon.
9. (Original) A vehicle according to claim 8, wherein said hydrocarbon is 1,7-octadiene.

10. (Original) A vehicle according to claim 9, wherein acrylic acid is provided at 50-100% and 1,7-octadiene is provided at 0-50% in the gas feed.

11. (Previously presented) A vehicle according to claim 1, wherein said surface is suitable for use with cells of mammalian origin.

12. (Original) A vehicle according to claim 11 wherein said mammalian cells are human.

13. (Previously presented) A vehicle according to claim 11, wherein said surface is suitable for use with a cell type selected from the group consisting of: keratinocytes, chondrocytes, osteoblasts, endothelial cells, urothelial cells, and epithelial cells.

14. (Original) A vehicle according to claim 13, wherein said cell type is a keratinocyte.

15. (Previously presented) A vehicle according to claim 1, wherein said vehicle comprises matrix material.

16. (Previously presented) A method for preparing a cell culture surface of a therapeutic vehicle according to claim 1 comprising:

- i) providing an acid;
- ii) creating a plasma of said acid; and
- iii) coating a substrate with said plasma to provide a surface polymer containing a high acid functionality of at least 5%.

17. (Original) A method according to claim 16 wherein said acid is acrylic acid or propionic acid.

18. (Previously presented) A method for preparing a cell culture surface of a therapeutic vehicle according to claim 1 comprising:

- i) mixing a selected ratio of acid containing monomer and a hydrocarbon in a gas feed;

- ii) creating a plasma of said mixture; and
- iii) coating a suitable substrate with said plasma to provide a surface polymer/co-polymer containing a high acid functionality of at least 5%.

19. (Original) A method according to claim 18, wherein said plasma is created using a plasma power of 0-50W and a flow rate of 0-20sccm under continuous wave conditions.

20. (Original) A method according to claim 19, wherein said plasma is created using pulsed wave conditions.

21. (Previously presented) A method according to claim 18, wherein said acid is acrylic acid and said hydrocarbon is 1,7-octadiene.

22. (Original) A method according to claim 21, wherein said plasma comprises 50-100% acrylic acid and 0-50% 1,7-octadiene in the gas feed.

23. (Previously presented) A method according to claim 21, wherein said plasma comprises the following percentages of acrylic acid and 1,7-octadiene:

acrylic acid %	1,7-octadiene %
50	50
60	40
70	30
80	20
90	10
100	0

24. (Previously presented) A method according to claim 21, wherein said plasma comprises the following percentages of acid and hydrocarbon:

acid %	hydrocarbon %
50	50
60	40

70	30
80	20
90	10
100	0

25. (Previously presented) A method for the treatment of cutaneous wounds, comprising using a therapeutic vehicle according to claim 1.

26. (Original) A method according to claim 25, wherein said plasma is created using a plasma power of 0-50W and a flow rate of 0-20sccm under continuous wave conditions.

27. (Original) A method according to claim 25, wherein said plasma is created using pulsed wave conditions.

28. (Previously presented) A method for the treatment of cutaneous wounds, comprising using a therapeutic vehicle according to claim 8, wherein said acid is acrylic acid and said hydrocarbon is 1,7-octadiene.

29. (Original) A method according to claim 28, wherein said plasma comprises 50-100% acrylic acid and 0-50% 1,7-octadiene in the gas feed.

30. (Previously presented) A method according to claim 29, wherein said plasma comprises the following percentages of acrylic acid and 1,7-octadiene:

acrylic acid %	1,7-octadiene %
50	50
60	40
70	30
80	20
90	10
100	0

31. (Previously presented) A method according to claim 29, wherein said plasma comprises the following percentages of acid and hydrocarbon:

acid %	hydrocarbon %
50	50
60	40
70	30
80	20
90	10
100	0

32. (Previously presented) A therapeutic vehicle according to claim 1, wherein said vehicle is a prosthesis, an implant, a matrix, a stent, a gauze, a bandage, a plaster, a biodegradable matrix or a polymeric film.